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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/385,020	08/30/1999	SHUNPEI YAMAZAKI	0756-2023	8609

31780 7590 06/04/2003

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EXAMINER

NGUYEN, KEVIN M

ART UNIT	PAPER NUMBER
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2674

DATE MAILED: 06/04/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/385,020

Applicant(s)

YAMAZAKI, SHUNPEI

Examiner

Kevin M. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on RCE 4/9/2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Request for Continued Examination

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/9/2003 has been entered. An action on the RCE follows:

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 7, 9-14 and 19-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Evanicky et al (US 5,896,119) in view of Maruyama (JP 08-211361).**

4. As to claims 7, 11, 19 and 23, Evanicky et al teach an active matrix liquid crystal display panel which includes a reflector 120 (col. 11, line 60), a back supporting glass 415a, and active transistor layer 417 having a plurality thin film transistors and a plurality of pixel electrodes, an active matrix substrate, a front supporting glass layer 415b (a counter substrate) (figure 9A, col. 12, lines 2-5), two backlights 52 are arranged on sides of the active matrix display panel 20 in opposite to each other. Therefore,

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Evanicky et al teaches all of the claimed limitation of claims 7, 11, 19 and 23, except for "3-color light emitting diodes arranged in delta." However, Maruyama teaches a liquid crystal display device having three light emitting diode elements 15r, 15g, and 15b of red, green, and blue become 3 set at a time by one piece respectively, a triangle is formed (see figures 1 and 3a, page 2, paragraph [0014] of detailed description). It would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize the RGB LED elements 15R, 15B, 15G are arranged in the triangle shape taught by Maruyama in Evanicky et al's TFTLCD device because this would be miniaturized thinly, the uniform luminescence quantity of light can be obtained, and long lasting display can be obtained, without producing the shortage of an illuminance (see page 4, paragraph [0024] of detailed description).

5. As to claims 10, 12, 20 and 24, Evanicky et al teach a reflection type liquid crystal display panel including the light beam being reflected (see figure 9A).

6. As to claims 13, 21 and 25, Evanicky et al teach an active transistor layer 417 having a plurality thin film transistors and a plurality of pixel electrodes, an active matrix substrate, a front supporting glass layer 415b (a counter substrate) (figure 9A, col. 12, lines 2-5).

7. As to claims 9, 14, 22 and 26, Maruyama's invention is applied to the display used for a notebook size personal computer (see page 1, paragraph [0001] of detailed description).

8. Claim 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Evanicky et al in view of Maruyama, and further in view of Okajima et al (US 5,334,993).

As to claim 15, Evanicky et al teaches an active matrix liquid crystal display panel which includes a reflector 120 (col. 11, line 60), a back supporting glass 415a, and active transistor layer 417 having a plurality thin film transistors and a plurality of pixel electrodes, an active matrix substrate, a front supporting glass layer 415b (a counter substrate) (figure 9A, col. 12, lines 2-5). Referring to figure 10, two backlights 52 are arranged on sides of the active matrix display panel 20 in opposite to each other. Therefore, Evanicky et al teaches all of the claimed limitation of claims 7, 11, 19 and 23, except for "3-color light emitting diodes arranged in delta." However, Maruyama teaches a liquid crystal display device having three light emitting diode elements 15r, 15g, and 15b of red, green, and blue become 3 set at a time by one piece respectively, a triangle is formed (see figures 1 and 3a, page 2, paragraph [0014] of detailed description). It would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize the RGB LED elements 15R, 15B, 15G are arranged in the triangle shape taught by Maruyama in Evanicky et al's TFTLCD device because this would be miniaturized thinly, the uniform luminescence quantity of light can be obtained, and long lasting display can be obtained, without producing the shortage of an illuminance (see page 4, paragraph [0024] of detailed description).

Therefore, Evanicky et al and Maruyama teach all of the claimed limitations of claim 15, except for "a red LED, a blue LED, and a green LED located on a subtracted

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and coated with resin." However, Okajima et al teaches a LCD having a backlight 111, the light guide plate 13 is made of a flat plate-shaped acrylic resin (see col. 2, lines 43-44). It would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize the flat plate-shaped acrylic resin taught by Okajima et al in Evanicky et al's and Maruyama's back light sources because this would prevent transmission heat emitting from a light source to a LCD plate and improve the display quality image (col. 1, lines 42-45 of Okajima).

9. As to claim 16, Evanicky et al teach a reflection type liquid crystal display panel including the light beam 62a being reflected (see figure 9A).

10. As to claim 17, Evanicky et al teach an active transistor layer 417 having a plurality thin film transistors and a plurality of pixel electrodes, an active matrix substrate, a front supporting glass layer 415b (a counter substrate) (figure 9A, col. 12, lines 2-5).

11. Claims 8 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Evanicky et al in view of Maruyama, and further in view of Zhou (US 5,953,469).

As to claims 8 and 18, Evanicky et al and Maruyama teach all of the claimed limitations of claims 7 and 15, except for the counter substrate has a plurality of inclined surface on a back of the counter substrate. However, Zhou teaches the counter substrate 20 having a plurality of inclined surface 31 on a back of the counter substrate 20 (see figure 3). It would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize the counter substrate 20 having a plurality of inclined

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surface 31 on a back of the counter substrate 20 taught by Zhou in Evanicky et al's and Maruyama's LCD device because this would improve the formation of video images of good quality, high resolution, and low power consumption (col. 3, lines 41-45 of Zhou).

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Kevin M. Nguyen** whose telephone number is **703-305-6209**. The examiner can normally be reached on MON-THU from 9:00-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard A Hjerpe** can be reached on **703-305-4709**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered response should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

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Kevin M. Nguyen
Examiner
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A handwritten signature in black ink, appearing to read 'Richard Hjerpe', with a stylized flourish at the end.

RICHARD HJERPE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600